# EXHIBIT E

M/S AMENDMENT
Attorney Docket No. 129250-001017/US

**IN THE U.S. PATENT AND TRADEMARK OFFICE**

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| APPLICANT(S): | Feihong CHEN, et al. | CONF. NO.: | 4241 |
| APPL. NO.: | 10/613,104 | ART UNIT: | 2616 |
| FILED | July 7, 2003 | EXAMINER: | Wanda Z. RUSSELL |
| ENTITLED: | METHODS AND DEVICES FOR CREATING BI-DIRECTIONAL LSPs | | |

**REQUEST FOR RECONSIDERATION**

September 11, 2008

**M/S AF**
Commissioner for Patents
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

In response to the Office Action dated July 23, 2008, ("Action") for the above-identified patent application, entry and consideration of the remarks provided below is respectfully requested. The sections included in this response are as follows:

**A Claim listing** begins on **page 2** of this paper; and

a **Remarks** section begins on **page 14** of this paper.

# AMENDMENTS TO THE CLAIMS

The following is a complete listing of claims with a status identifier in parentheses.

## LISTING OF CLAIMS

1. (PREVIOUSLY PRESENTED) A network device operable to:

by itself generate and send a backward path request message to a source of a separately generated, initial forward path request message associated with a forward Label Switched Path (LSP) between the device and the source; and

receive a backward path reservation message from the source in order to establish a backward LSP between the device and the source, wherein the separately established forward and backward LSPs form a bi-directional LSP between the device and the source.

2. (ORIGINAL) The device as in claim 1 further operable to generate and send an initial, forward path reservation message to the source in order to establish the forward LSP after receiving the initial forward path request message.

3. (ORIGINAL) The device as in claim 1 further operable to generate and send a backward path reservation message to a destination after receiving a backward

path request message from the destination in order to establish a backward LSP between the device and the destination.

4. (PREVIOUSLY PRESENTED) The device as in claim 3 further operable to separately generate and send a forward path request message to the destination in order to establish a forward LSP between the device and the destination, wherein the separately established forward and backward LSPs between the device and the destination form a bi-directional LSP between the device and the destination.

5. (ORIGINAL) The device as in claim 1 wherein the forward and backward LSPs between the device and source comprise the same path.

6. (ORIGINAL) The device as in claim 4 wherein the forward and backward LSPs between the device and destination comprise the same path.

7. (ORIGINAL) The device as in claim 1 further operable to generate the backward path request message based on backward path parameters contained in the initial forward path request message.

8. (CANCELED)

9. (PREVIOUSLY PRESENTED) The device as in claim 7 further operable to query a local database to obtain routing information in order to generate the backward path request message.

10. (ORIGINAL) The device as in claim 7 further operable to generate the backward path request message based on a quality-of-service (QoS) indicator contained within the parameters.

11. (ORIGINAL) The device as in claim 7 further operable to generate the backward path request message based on best effort routing information when a QoS indicator is not contained within the parameters.

12. (PREVIOUSLY PRESENTED) The device as in claim 7 wherein the traffic parameters comprise a bi-directional LSP indicator and a QoS indicator.

13. (ORIGINAL) The device as in claim 1 further operable to request backward traffic parameters from the source when the initial path request message does not contain such parameters.

14. (ORIGINAL) The device as in claim 1 further operable to generate and send a first delete path message to the source and to receive a second delete path message from the source in order to delete the bi-directional LSP.

15. (ORIGINAL) The device as in claim 14 further operable to send the first delete path message to the source before receiving the second delete path message from the source.

16. (ORIGINAL) The device as in claim 14 further operable to send the first delete path message to the source after receiving the second delete path message from the source.

17. (PREVIOUSLY PRESENTED) A network device operable to generate independently and send a backward path reservation message to a destination after receiving a backward path request message from the destination in order to establish a backward LSP between the device and the destination.

18. (PREVIOUSLY PRESENTED) The device as in claim 17 further operable to separately generate and send a forward path request message to the destination in order to establish a forward LSP between the device and the destination, wherein the separately established forward and backward LSPs between the device and the destination form a bi-directional LSP between the device and the destination.

19. (CANCELED)

20. (ORIGINAL) The device as in claim 17 further operable to generate and send a first delete path message to the destination and to receive a second delete path message from the destination in order to delete the bi-directional LSP.

21. (ORIGINAL) The device as in claim 20 further operable to send the first delete path message to the destination before receiving the second delete path message from the destination.

22. (ORIGINAL) The device as in claim 20 further operable to send the first delete path message to the destination after receiving the second delete path message from the destination.

23. (PREVIOUSLY PRESENTED) A method for creating a bi-directional LSP comprising the steps of:

generating and sending an independent backward path request message to a source of a separately generated, initial forward path request message associated with a forward Label Switched Path (LSP) between the device and the source; and

receiving a backward path reservation message from the source in order to establish a backward LSP between the device and the source, wherein the separately established forward and backward LSPs form a bi-directional LSP between the device and the source.

24. (ORIGINAL) The method as in claim 23 further comprising the steps of generating and sending an initial, forward path reservation message to the source in order to establish the forward LSP after receiving the initial forward path request message.

25. (PREVIOUSLY PRESENTED) The method as in claim 23 further comprising the steps of generating and sending an independent backward path reservation message to a destination after receiving a backward path request message from the destination in order to establish a backward LSP between the device and the destination.

26. (PREVIOUSLY PRESENTED) The method as in claim 25 further comprising the steps of separately generating and sending a forward path request message to the destination in order to establish a forward LSP between the device and the destination, wherein the separately established forward and backward LSPs between the device and the destination form a bi-directional LSP between the device and the destination.

27-28 (CANCELED)

29. (ORIGINAL) The method as in claim 23 further comprising the step of generating the backward path request message based on backward path parameters contained in the initial forward path request message.

30. (CANCELED)

31. (PREVIOUSLY PRESENTED) The method as in claim 29 further comprising the step of querying a local database to obtain routing information in order to generate the backward path request.

32. (ORIGINAL) The method as in claim 29 further comprising the step of generating the backward path request message based on a quality-of-service (QoS) indicator contained within the parameters.

33. (ORIGINAL) The method as in claim 29 further comprising the step of generating the backward path request message based on best effort routing information when a QoS indicator is not contained within the parameters.

34. (PREVIOUSLY PRESENTED) The method as in claim 29 wherein the traffic parameters comprise parameters selected from the group consisting of a bi-directional LSP indicator and a QoS indicator.

35. (Previously Presented) The method as in claim 23 further comprising the step of requesting backward traffic parameters from the source.

36. (ORIGINAL) The method as in claim 23 further comprising the steps of generating and sending a first delete path message to the source and receiving a second delete path message from the source in order to delete the bi-directional LSP.

37. (ORIGINAL) The method as in claim 36 further comprising the step of sending the first delete path message to the source before receiving the second delete path message from the source.

38. (ORIGINAL) The method as in claim 36 further comprising the step of sending the first delete path message to the source after receiving the second delete path message from the source.

39. (ORIGINAL) A method for creating a bi-directional LSP comprising the steps of generating and sending a backward path reservation message to a destination after receiving a backward path request message from the destination in order to establish a backward LSP between the device and the destination.

40. (PREVIOUSLY PRESENTED) The method as in claim 39 further comprising the steps of separately generating and sending a forward path request message to the destination in order to establish a forward LSP between the device and the destination, wherein the separately established forward and backward LSPs between the

device and the destination form a bi-directional LSP between the device and the destination.

41. (ORIGINAL) The method as in claim 40 wherein the forward and backward LSPs between the device and destination comprise the same path.

42. (ORIGINAL) The method as in claim 39 further comprises the steps of generating and sending a first delete path message to the destination and to receive a second delete path message from the destination in order to delete the bi-directional LSP.

43. (ORIGINAL) The method as in claim 42 further comprising the step of sending the first delete path message to the destination before receiving the second delete path message from the destination.

44. (ORIGINAL) The method as in claim 42 further comprising the step of sending the first delete path message to the destination after receiving the second delete path message from the destination.

45. (PREVIOUSLY PRESENTED) A network device comprising:

means for generating and sending a backward path request message to a source of a separately generated, initial forward path request message associated with a forward Label Switched Path (LSP) between the device and the source; and

means for receiving a backward path reservation message from the source in order to establish a backward LSP between the device and the source, wherein the separately established forward and backward LSPs form a bi-directional LSP between the device and the source.

46. (ORIGINAL) The device as in claim 45 further comprising means for generating and sending an initial, forward path reservation message to the source in order to establish the forward LSP after receiving the initial forward path request message.

47. (ORIGINAL) The device as in claim 45 further comprising means for generating and sending a backward path reservation message to a destination after receiving a backward path request message from the destination in order to establish a backward LSP between the device and the destination.

48. (PREVIOUSLY PRESENTED) The device as in claim 47 further comprising means for separately generating and sending a forward path request message to the destination in order to establish a forward LSP between the device and the destination,

wherein the separately established forward and backward LSPs between the device and the destination form a bi-directional LSP between the device and the destination.

49-50. (CANCELED)

51. (ORIGINAL) The device as in claim 45 further comprising means for generating the backward path request message based on backward path parameters contained in the initial forward path request message.

52. (CANCELED)

53. (PREVIOUSLY PRESENTED) The device as in claim 51 further comprising means for querying a local database to obtain routing information in order to generate the backward path request.

54. (ORIGINAL) The device as in claim 51 further comprising means for generating the backward path request message based on a quality-of-service (QoS) indicator contained within the parameters.

55. (ORIGINAL) A network device comprising means for generating and sending a backward path reservation message to a destination after receiving a backward

path request message from the destination in order to establish a backward LSP between the device and the destination.

56. (PREVIOUSLY PRESENTED) The device as in claim 55 further comprising means for separately generating and sending a forward path request message to the destination in order to establish a forward LSP between the device and the destination, wherein the separately established forward and backward LSPs between the device and the destination form a bi-directional LSP between the device and the destination.

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# REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

**Rejections under 35 U.S.C. § 103**

**(i) claims 1-7, 9-18, 20-26, 29, 31-48, 51 and 53-56**

Claims 1-7, 9-18, 20-26, 29, 31-48, 51 and 53-56 stand rejected under 35 U.S.C. 103(a) as unpatentable over So's U.S. Pub. Pat. Appl. No. 2002/0109879 A1 ("So") in view of Enoki et al.'s U.S. Pub. Pat. Appl. No. 2002/0057691 A1 ("Enoki"). Applicants respectfully disagree and traverse these rejections for at least the following reasons.

As presently understood by the Applicants it appears in the first part of the Examiner's response that the Examiner again acknowledges that So does not disclose a device which itself generates a backward path request message. To make up for this deficiency the Examiner again appears to rely on Enoki. That said, in the "Response to Arguments" section the Examiner appears to rely on So. The Applicants respectfully request clarification of the Examiner's position.

Assuming that the Examiner is relying upon Enoki the Examiner appears to take the position that even though neither one of So nor Enoki disclose the generation of a backward path request message, the fact that they transmit such a message is enough. Said another way, the Examiner takes the position that "transmit" includes "generate". As

the Applicants have pointed out previously, this is incorrect. More particularly, that the transmission of a label request message S26 by an LSR 3 necessarily means that the LSR3 generates S26. This is incorrect.

The Applicants respectfully reiterate that those of ordinary skill in the art recognize a distinction between the act of ***generating*** and the act of ***transmitting***. Further, the Applicants submit that Enoki just provides for a terminal device capable of transmitting a backward path based on the "bidirectional setup" information received from LSR 1; there is not disclosure within Enoki that the "LSR 3" router is capable of independently ("by itself") generating a backward path. Enoki provides:

> [0143] It is to be noted that FIG. 15 shows a sequence of the bidirectional LSP setup message in the embodiment (2). In case an external request S20 of setting up 1 Mbps LSP between the terminals "A" and "B" is made to the LSR 1, the ***LSR 1 transmits a label request message S21 in which the bidirectional setup and the down direction (from terminal "B" to "A") bandwidth designation of 1 Mbps are set*** in the vendor-private TLV to the LSR 2.
>
> [0144] The LSR 2 which has received the message S21 transmits the label request message S22 similar to the message S21 to the LSR 3.
>
> [0145] The LSR 3 performs the process for the bidirectional LSP setup ***based on the vendor-private TLV within the label request message S22***. At this time, the LSR 3 stores the correspondence of the bidirectional LSP ID's and performs a down direction LSP setup S23 ***with the designated bandwidth (1 Mbps)***.

Enoki, paras. [0143]-[0145] (emphasis added).

Applicants contend, therefore, that one of ordinary skill in the art would understand that Enoki teaches that the down direction information is provided to the device from external (downstream) sources; it is not generated by Enoki..

In more detail, in Enoki the characteristics of the "backward" or "down direction" path are defined by the "setup request" received from LSR 1 without any modification or independent action by the receiving unit in defining the "down direction" parameters. Applicants further note that this understanding of Enoki is reinforced by Enoki's characterization of the invention as comprising:

> . . . a bidirectional LSP setup accepting portion for ***accepting an external bidirectional LSP setup request***, a bidirectional LSP setup TLV preparing portion for ***preparing a bidirectional LSP setup TLV included in a bidirectional setup label request message transmitted in an up direction*** to a label switching router placed at another end of the LSP based on the bidirectional LSP setup request, a bidirectional LSP setup TLV analyzer for analyzing the bidirectional LSP setup TLV in the message when the message is received from the label switching router at the other end, a bidirectional LSP processor for performing an LSP setup request in a down direction as opposed to the up direction ***based on the analyzed result by the bidirectional LSP setup TLV analyzer***, and an explicit route preparing portion for preparing an explicit route on which a router to be relayed in the down direction is prescribed, ***based on an explicit route preparing request from the bidirectional LSP processor***, based on the CRLDP, and for notifying the prepared route to the bidirectional LSP processor.

Enoki, para. [0034] (emphasis added).

Applicants note that claim 1 states that the network device is operable in a manner such that the device can:

> . . . independently generate and send a backward path request message to a source of a separately generated, initial ***forward path request message*** associated with a forward Label Switched Path (LSP) between the device and the source . . . . (emphasis added)

Applicants further contend that the cited portions of Enoki cannot fairly be characterized as providing for the "independent" generation of the "backward path" as recited in the pending claims. Indeed, with respect to backward path generation, Enoki's "LSR 3" router may be more fairly characterized as a "slave" unit that merely utilizes the routing information from the received ***bidirectional*** setup.

Applicants contend, therefore, that the proposed combination of So and Enoki references are not sufficient to teach or suggest each element of the pending claims as required for a rejection under 35 U.S.C. § 103. Furthermore, Applicants contend that one of ordinary skill in the art relying on the So and Enoki references would not be led to the functional modifications necessary to achieve the claimed inventions.

**(ii) additional comments regarding claim 2**

With respect to claim 2, the Examiner suggests that So discloses a device capable of generating and sending an "initial, forward path reservation message to the source in order to establish the forward LSP after receiving the initial forward path request message." Applicants disagree. Instead, the Applicants suggest that in the cited portions of the So reference relied on by the Examiner an initial request from a "source" provides information for a forward path rather than having path information be generated in the receiving or "last-hop router." In response, the Examiner states that she "does not

interpret the device is [sic] only in the receiving side" (page 9 of Action). The Applicants respectfully remind the Examiner that while claims may be interpreted broadly, any interpretation must be consistent with the specification. *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000). . In sum, the Examiner's interpretation of the claims as including devices located at the transmission side is inconsistent with the specification.

**(iii) additional comments regarding claims 5-7, 13 and 14**

With regard to claims 5-7, 13 and 14 the Applicants note that the Examiner has not addressed the points raised by the Applicants in their last response. The Applicants respectfully request that the Examine either address these points or allow these claims.

**(iv) additional comments regarding claim 12**

In their last response the Applicants pointed out that the specific citation from So (para. [0320]) does not teach or suggest a QoS indicator. In response, the Examiner takes the position that "jitter" is a parameter of QoS. Whether or not jitter may, or may not, be a parameter of QoS is immaterial. What is material is that the jitter described in So is not used as a traffic parameter that is used to generate backward path request messages.

**(v) additional comments regarding claims 15 and 16**

In the Applicants last response they pointed out that paragraphs [570] and [572] of So do not teach or suggest a network device that is "operable to send the first delete path message …." . In response, the Examiner refers the Applicants to paragraphs [615] of So stating that this paragraph "mentions deleting". However, the claimed inventions are directed at the deletion of path messages. In contrast, So is directed at the deletion of light paths.

**(vi) additional comments regarding claims 17, 18 and 20-22**

With respect to claims 17, 18 and 20-22, the Applicants once again incorporate the discussion above (and from their previous responses) with regard to the "generation" function attributed to the cited portions of the Enoki reference. In particular, Applicants maintain that the "bidirectional LSP setup message" provides the information for the LSP to the node and that there is no teaching or suggestion of independent "generation" of path data at the network device in response to a backward path request or other message from the destination.

**(vii) additional comments regarding claims 23-26, 29, 31-48, 51 and 53-56**

With regard to claims 23-26, 29, 31-48, 51 and 53-56, the Applicants once again incorporate the discussion above (and from their previous responses) with respect to the applicability of So and Enoki to the preceding claims and contend that the method and means claims are allowable for at least the same reasons. In particular, Applicants

contend that the cited portions of the So and Enoki references do not clearly support the associated contention(s) with regard to the teachings as understood by one of ordinary skill in the art. Applicants maintain, therefore, that until some substantive explanation is provided as to exactly how the cited text supports the pending rejection, Applicants have not been afforded a full and fair opportunity to understand and address the Examiner's technical interpretation and reasoning.

Applicants request that the pending rejections be reconsidered and withdrawn accordingly.

**CONCLUSION**

In view of the above remarks, the Applicants respectfully submit that each of the pending rejections has been addressed and overcome, leaving the present application in condition for allowance. A Notice to that effect is respectfully requested.

If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge any underpayment or non-payment of any fees required under 37 C.F.R. §§ 1.16 or 1.17, or credit any overpayment of such fees, to Deposit Account No. 50-3777, including, in particular, extension of time fees.

Respectfully submitted,

CAPITOL PATENT & TRADEMARK LAW FIRM, PLLC

By: /John E. Curtin/
John E. Curtin, Reg. No. 37,602
P.O. Box 1995
Vienna, VA 22183